

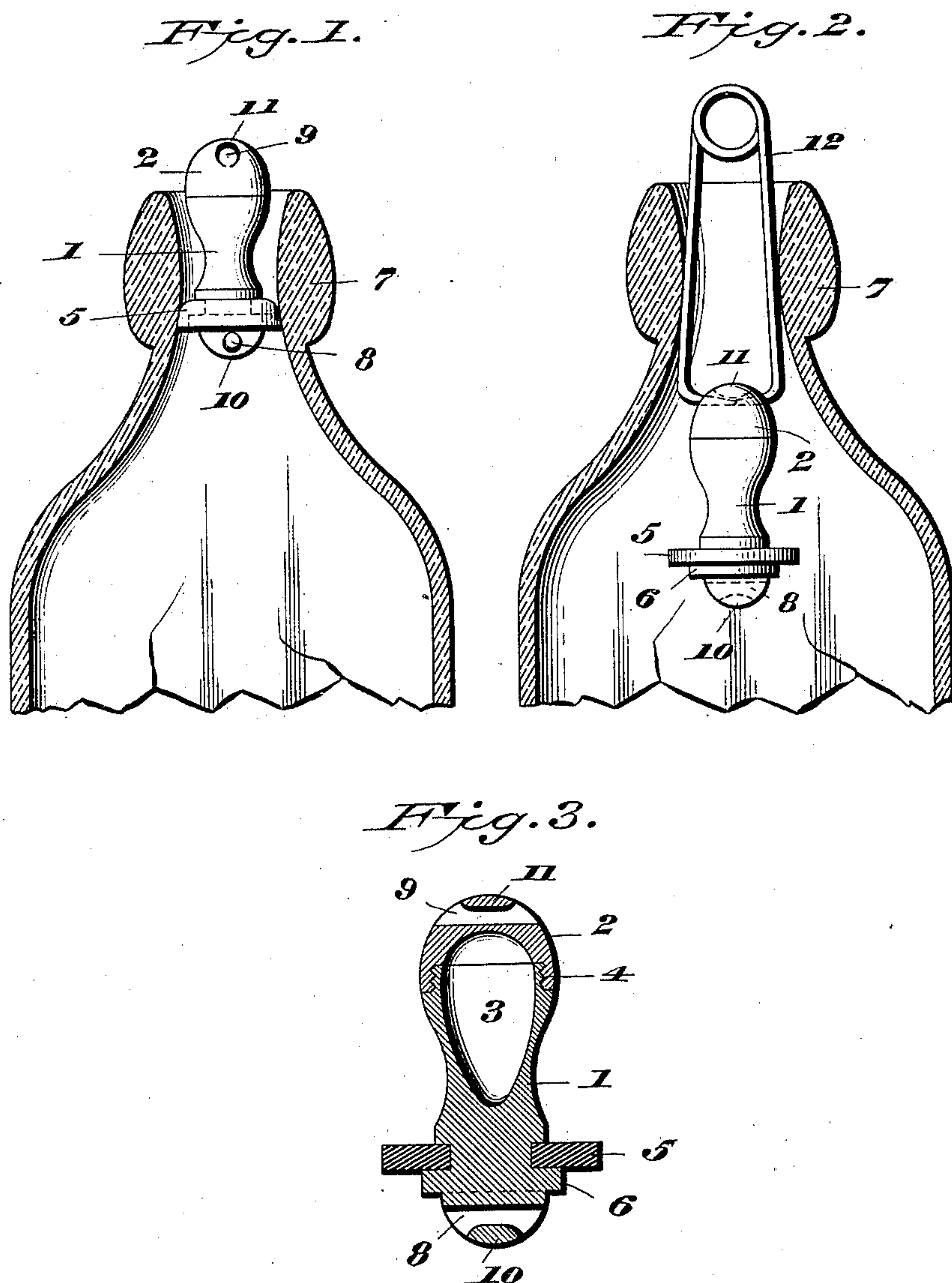
No. 613,066.

Patented Oct. 25, 1898.

T. HOWARD.
BOTTLE STOPPER.

(Application filed Aug. 5, 1898.)

(No Model.)



WITNESSES
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THOMAS HOWARD, OF ASHLAND, KENTUCKY, ASSIGNOR OF ONE-HALF TO
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BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 613,066, dated October 25, 1898.

Application filed August 5, 1898. Serial No. 687,834. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HOWARD, a citizen of the United States, residing at Ashland, county of Boyd, and State of Kentucky, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to bottle-stoppers, and has for its object to provide certain improvements in that class of stoppers wherein the sealing is effected by means of a flexible disk jammed against the walls of the bottle-neck, one object of my invention being to provide a stopper composed entirely of a material that will not affect or be affected by the bottle contents and which may be temporarily uncorked or removed from the bottle when desired, a further object being to so constitute said stopper that it will automatically cork the bottle-neck from the inside when the bottle is filled with charged or carbonated liquid. These objects I accomplish in the manner and by the means hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view of a part of a bottle, showing my improved stopper applied thereto in the stoppered position. Fig. 2 is a similar view showing the stopper in the uncorked position for permitting the removal of a portion of the bottle contents. Fig. 3 is an enlarged longitudinal sectional view of the stopper.

Similar numerals of reference denote corresponding parts in the several views.

As shown more particularly in Fig. 3, my improved stopper is preferably formed in two parts, consisting of the main or body portion 1 and the cap 2, hollowed out in their interior to form the air-chamber 3 and screw-threaded at 4, so as to be joined together water-tight. In order to prevent injury to the contents of the bottle or to the stopper itself, I form the same preferably of vulcanized or hard rubber, though any other material possessing the necessary properties and which will float on the liquid may be employed.

Removably located in a circumferential recess in the body portion 1 is a disk of flexible material 5, preferably rubber, while immediately below said disk the body portion 1 is

formed with a circumferential flange 6, projecting somewhat beyond the normal surface of the stopper in order that the stopper may be inserted into the bottle-neck 7 with the body portion 1 downward, but cannot be withdrawn therefrom until the stopper is reversed and the body portion 1 is upward.

Both the body portion 1 and the cap 2 are apertured transversely, as shown at 8 and 9, respectively, bridges 10 and 11 being left to preserve the general configuration of the stopper and to serve as a means for grasping said stopper, as will be hereinafter described.

From the above description the operation of my improved construction will be understood to be as follows: To insert the stopper into the bottle, it is only necessary to force the same thereinto with the body portion 1 downward, as the sealing-disk 5 will then fold back into the stopper proper and offer practically no obstacle to the passage of the stopper into the bottle, and said stopper will then necessarily fall to the bottom of the bottle. Now when carbonated liquid is introduced into the bottle in any well-known manner the stopper, being composed of material that will float, will rise with the liquid-level and with the cap 2 uppermost, owing to the air-chamber 3, so that when the bottle is full and the introduction of liquid stopped the stopper will be instantly forced to the stoppered position. (Shown in Fig. 1.) To uncork the bottle, I insert into the aperture 9, formed in the cap 2, the hooked ends of a spring-expander 12, which will afford means for forcing the stopper down into the bottle and will also, by reason of the expansion of its members against the bottle-neck, prevent the return of the stopper from the pressure within. The contents of the bottle may now be either wholly or partially decanted, for when the latter is desired the bottle may be recorked at any time by pulling up the stopper into position through the medium of the expander 12. When the bottle is emptied, the expander is drawn up far enough to permit its disengagement from the stopper, and the latter will then fall to the bottom of the bottle. The latter is now ready to be cleaned by the usual brush mechanism ordinarily used in cleaning bottles with detachable or exterior

stoppers, said stopper offering no obstacle to the same and being, moreover, itself thoroughly cleaned by the same operation.

5 When it is desired to remove the stopper from the bottle—for instance, to renew the disk 5—it is only necessary to engage the aperture 8 in the body portion 1 with a bent wire, and said stopper can be readily withdrawn.

10 It will be observed that by forming the apertures 8 and 9 in the body of the stopper I provide a ready means for engaging said stopper, either to decant the liquid or to remove said stopper from the bottle, and at the same
15 time obviate the necessity of providing the stopper with metallic rings screwed or otherwise fixed therein, whereby the stopper is composed entirely of an innocuous material.

Having thus described my invention, what I claim as new, and desire to secure by Letters 20 Patent, is—

A bottle-stopper formed in two parts detachably connected together and provided with an air-chamber therebetween, and having at approximately each end an aperture 25 formed in the body portion thereof for the reception of uncorking and removing instruments, and a sealing-disk intermediate its length, substantially as set forth.

In testimony whereof I have hereunto set 30 my hand in the presence of two subscribing witnesses.

THOMAS HOWARD.

Witnesses:

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M. T. NEWMAN.